

# Connected store for onsite supply of gases and hardgoods



Air Liquide has developed an onsite stock management solution to cater for welding and cutting customer needs. The container-based welding store offers ISO 3834-compliant temperature and humidity control for welding consumables along with real time monitoring for the control and management of stock. *African Fusion* talks to Mwali Kawawa, the company's new Welding and Cutting manager and Rolf Schlupe, Packaged Gas business manager for Air Liquide in South Africa.

“Air Liquide has always incorporated value added services in its offers and this was clearly evident with the launch of the ARCAL™ New Generation range of welding gases. With the release of this offer, a foundation was set for customers to benefit from process optimisation, business efficiency and competitiveness,” begins Schlupe.

The ARCAL™ New Generation range consists of four premium shielding gases for arc welding namely; ARCAL™ Prime, a high purity argon gas for TIG and MIG welding of non-ferrous materials and back purging for stainless tube

welding; ARCAL™ Chrome, a mixture for MAG welding of stainless steel; ARCAL™ Speed for thinner section carbon steel welding and ARCAL™ Force for thicker joints requiring higher heat inputs.

“We believe that at least 80% of all gas-shielded welding fabrication tasks can be successfully completed with the aid of one of these New Generation gases,” says Schlupe.

“Apart from this premium offer, we have developed a range of associated equipment, packaging and supply options to help our clients further enhance their production processes. These include, amongst others: value added gas audits for the welding processes used; skid-based supply options with telemetry to enable automatic reordering; our EXELTOP™ cylinder-integrated double stage regulator and flow control solution; as well as the welding technical support we have always offered to our customers.

“Our increasing focus on customer centricity, along with the integration of our hardgoods offering from Weld-Cut into Air Liquide South Africa, has led us to extend our onsite supply solution. This includes welding consumables such as electrodes, fluxes, wires, as well as the machines and all the accessories required to keep welding operations productive at a customer's site,” Schlupe tells *African Fusion*.

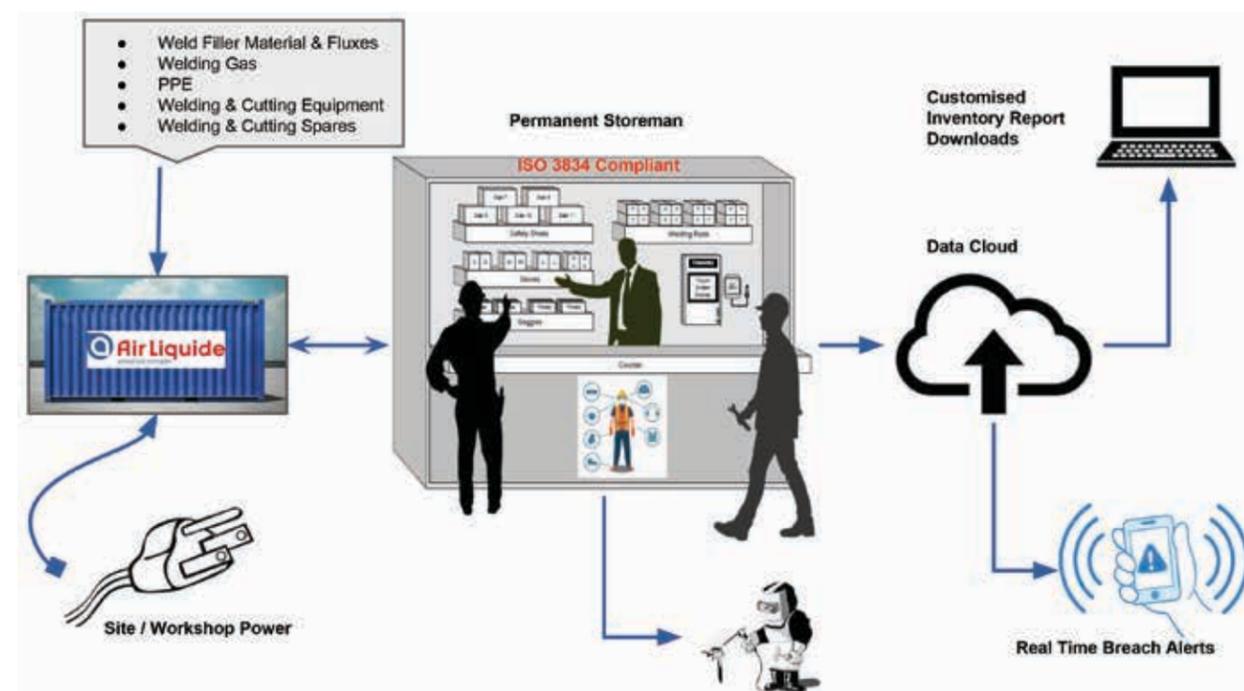
The new offering for both workshop and onsite operations is a container-based welding store that will provide easy access for welders involved in the fabrication and construction industries. “This offering in-

volves the supply of Air Liquide's ARCAL welding gases as well as a full range of consumables, machines and hardgoods needed to complete welding construction, fabrication and repair,” continues Kawawa. “In essence, the container will be deployed in parallel to our gas offer and stocked with everything needed within 5 m around the welder to enable the welding to be completed efficiently, cost-effectively and timeously,” he adds.

From a gases and consumables perspective, Kawawa explains that the management of stock is a very important issue. “In order to minimise defects and downtime, welding consumable stores need to comply with the requirements of the applicable codes of construction, client specifications and ISO 3834. These specify the correct management, control and issue of the consumables for welding using the correct WPS, for example – and while these issues are very well articulated in ISO 3834, they remain challenging on almost every steel construction workshop and site,” he notes.

“We have come up with an ideal solution to meet all the site-based welding needs, while complying with construction codes and standards such as ISO 3834,” says Kawawa. “We supply a 20-ft/6.1 m stock container with the stock management technologies required to store consumables under the necessary conditions and to issue stock in a controlled way. This avoids mistakes pertaining to recording and communicating the quantities and consumption levels,” he explains.

“It is important when storing electrodes that moisture pickup is avoided so, unless vacuum packed electrodes are being used, the humidity and tem-



perature inside the storage environment need to be maintained to keep fluxes and electrodes moisture-free and suitable for use,” he continues.

As well as maintaining the temperature and humidity conditions at suitable levels in the container, electrodes and fluxes that have exceeded their exposure limits can be returned for baking.

“The entire container temperature and humidity is continuously monitored, via telemetry and this data is remotely tracked on a real time basis by Air Liquide. Warnings and alerts are then sent to the store manager and/or onsite welding supervisor to alert them of any deviations,” Kawawa continues.

Over and above the notifications on the storage environment, the telemetry warns the assignee on the misuse of the product or abnormal activities. For example, if a worker is only allowed one pair of safety boots for the duration of a stipulated project but decides to order two, a notification will be sent to the assigned supervisor/manager.

With respect to brands, Air Liquide has signed a supply agreement with ESAB for its Tier 1 welding consumables, machines and accessories. “With this arrangement in place, we can offer a complete solution to our customers while offering the piece of mind that there are automated controls in place to ensure effective stock management,” adds Schlupe.

“Our Connected Stock Management Tool is ideal for deployment during a shutdown because we can include all of

the consumables, machines, hardgoods and gas needed. Every construction contract is different, so we tailor the contents of the container store to meet the actual project needs.

“The idea is that welders and welding coordinators can have access to everything they need to complete their work more efficiently while offering control to the site management through real time monitoring of stock withdrawal activities. We take over all the stock management and control issues of the welding contractor and guarantee compliance to codes and specifications,” Kawawa informs *African Fusion*.

Describing how Air Liquide arrives at a customised solution for customers, Kawawa says the process starts with meeting the Welding Fabricator to identify their requirements. If supporting a shut-down, for example, which has a well defined limited duration, we can forecast and anticipate everything needed to complete the work,” he explains.

“We can also take care of the certifications needed by the plant operator: Some gas and consumable choices are essential variables for a WPS, so we will re-qualify procedures that explicitly name the consumables used,” he says.

Advantages also roll over onto the commercial side: When a welder comes to the store, he has to enter his unique pin number into the stock control system prior to the order being processed. The Air Liquide store manager will then allocate the items to the job and issue the items to the welder. The automatic

stock control systems then updates the remaining stock levels.

“Underpinning this offering is the real time telemetry monitoring solution. Should any logic or control parameters be breached, the system will notify the site supervisor via SMS or email and can even lock out the user. The system can be modified to allow various levels of control and can be programmed to suit the ever-changing needs of the customer. A detailed record of the welder's activity is immediately available for the project managers, which enables them to effectively and effortlessly control their inventories and better monitor their welding activities and costs,” suggests Schlupe.

“Another advantage is that invoicing only happens after resources have been allocated, so there is no need for the client to invest in welding resources in advance, meaning that only the products actually consumed during the project are invoiced,” adds Kawawa.

“Air Liquide is endeavouring to become a customer-centric organisation. We are not only focused on fulfilling the gas needs of our customers but looking at delivering holistic services with added value,” says Schlupe.

“Our new Connected Store is tailored around the customer; we ask what is required, what is preferred and how we can help to deliver a cost-effective and efficient welding service.

With this in mind, we plan to evolve our value-added offers based on the needs of the market,” he concludes. ■

Air Liquide's next-generation EXELTOP™ cylinder-integrated double stage regulator and flow control solution is just one example of an innovative solution tailored around customer needs.